

What is Claimed is:

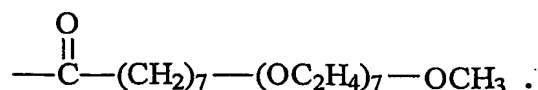
1. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a substantially monodispersed mixture of conjugates, wherein the conjugate comprises a first oligomer and a second oligomer, wherein each oligomer is coupled to salmon calcitonin and wherein the first oligomer is covalently coupled to an amine function of Lys¹¹ of the salmon calcitonin and the second oligomer is covalently coupled to an amine function of Lys¹⁸ of the salmon calcitonin.

2. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a substantially monodispersed mixture of conjugates, each conjugate comprising a calcitonin drug coupled to an oligomer that comprises a polyethylene glycol moiety, wherein the oligomer comprises a first polyethylene glycol moiety covalently coupled to the calcitonin drug by a non-hydrolyzable bond and a second polyethylene glycol moiety covalently coupled to the first polyethylene glycol moiety by a hydrolyzable bond.

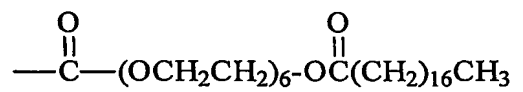
3. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a substantially monodispersed mixture of conjugates each comprising salmon calcitonin covalently coupled at Lys¹¹ of the salmon calcitonin to the carboxylic acid moiety of a carboxylic acid, which is covalently coupled at the end distal to the carboxylic acid moiety to a methyl terminated polyethylene glycol moiety having at least 7 polyethylene glycol subunits, and covalently coupled at Lys¹⁸ of the salmon calcitonin to the carboxylic acid moiety of a carboxylic acid, which is covalently coupled at the end distal to the carboxylic acid moiety to a methyl terminated polyethylene glycol moiety having at least 7 polyethylene glycol subunits.

4. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates having a molecular weight distribution with a standard deviation of less than about 22 Daltons, wherein each conjugate in the mixture comprises salmon calcitonin coupled at Lys¹¹ to a first

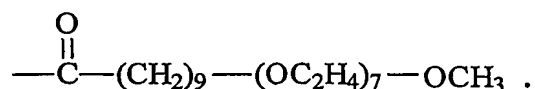
oligomer and coupled at Lys¹⁸ to a second oligomer, and wherein the first oligomer and the second oligomer each have the formula:



5. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates having a molecular weight distribution with a standard deviation of less than about 22 Daltons, wherein each conjugate in the mixture comprises salmon calcitonin coupled at Lys¹¹ to a first oligomer and coupled at Lys¹⁸ to a second oligomer, and wherein the first oligomer and the second oligomer each have the formula:



6. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates having a molecular weight distribution with a standard deviation of less than about 22 Daltons, wherein each conjugate in the mixture comprises salmon calcitonin coupled at Lys¹¹ or Lys¹⁸ to an oligomer having the formula:



7. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates having a dispersity coefficient (DC) greater than 10,000 where

$$DC = \frac{\left(\sum_{i=1}^n N_i M_i \right)^2}{\sum_{i=1}^n N_i M_i^2 \sum_{i=1}^n N_i - \left(\sum_{i=1}^n N_i M_i \right)^2}$$

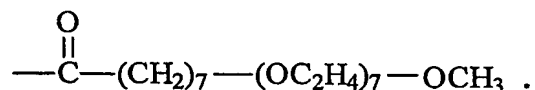
wherein:

n is the number of different molecules in the sample;

N_i is the number of i^{th} molecules in the sample; and

M_i is the mass of the i^{th} molecule, and

wherein each conjugate in the mixture comprises salmon calcitonin coupled at Lys¹¹ to a first oligomer and coupled at Lys¹⁸ to a second oligomer, and wherein the first oligomer and the second oligomer each have the formula:



8. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates having a dispersity coefficient (DC) greater than 10,000 where

$$DC = \frac{\left(\sum_{i=1}^n N_i M_i \right)^2}{\sum_{i=1}^n N_i M_i^2 \sum_{i=1}^n N_i - \left(\sum_{i=1}^n N_i M_i \right)^2}$$

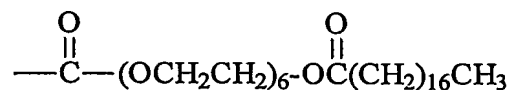
wherein:

n is the number of different molecules in the sample;

N_i is the number of i^{th} molecules in the sample; and

M_i is the mass of the i^{th} molecule, and

wherein each conjugate in the mixture comprises salmon calcitonin coupled at Lys¹¹ to a first oligomer and coupled at Lys¹⁸ to a second oligomer, and wherein the first oligomer and the second oligomer each have the formula:



9. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates having a dispersity coefficient (DC) greater than 10,000 where

$$DC = \frac{\left(\sum_{i=1}^n N_i M_i \right)^2}{\sum_{i=1}^n N_i M_i^2 \sum_{i=1}^n N_i - \left(\sum_{i=1}^n N_i M_i \right)^2}$$

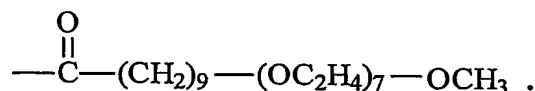
wherein:

n is the number of different molecules in the sample;

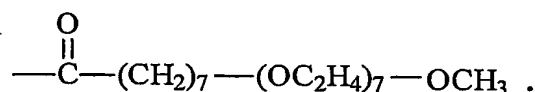
N_i is the number of i^{th} molecules in the sample; and

M_i is the mass of the i^{th} molecule, and

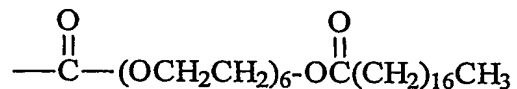
wherein each conjugate in the mixture comprises salmon calcitonin coupled at Lys¹¹ or Lys¹⁸ to an oligomer having the formula:



10. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates in which each conjugate comprises salmon calcitonin coupled at Lys¹¹ to a first oligomer and coupled at Lys¹⁸ to a second oligomer, and wherein the first oligomer and the second oligomer each have the formula:

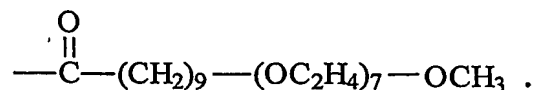


11. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates in which each conjugate comprises salmon calcitonin coupled at Lys¹¹ to a first oligomer and coupled at Lys¹⁸ to a second oligomer, and wherein the first oligomer and the second oligomer each have the formula:

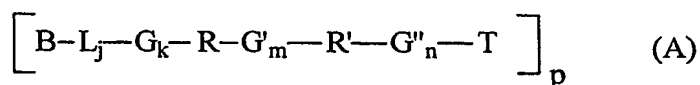


12. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates in which each

conjugate comprises salmon calcitonin coupled at Lys¹¹ or Lys¹⁸ to an oligomer having the formula:



13. A method of treating peripheral pain in a subject in need thereof, comprising administering to the subject an effective amount of a mixture of conjugates in which each conjugate has the same molecular weight and has the structure: Calcitonin Drug-oligomer where the oligomer has the formula:



and wherein:

the Calcitonin Drug is a salmon calcitonin coupled to the oligomer at Lys¹¹ and Lys¹⁸;

B is a bonding moiety;

L is a linker moiety;

G, G' and G'' are individually selected spacer moieties;

R is a lipophilic moiety and R' is a polyalkylene glycol moiety, or R' is the lipophilic moiety and R is the polyalkylene glycol moiety;

T is methoxy;

j, k, m and n are individually 0 or 1; and

p is an integer from 1 to the number of nucleophilic residues on the calcitonin drug.